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ABSTRACT

Data on the Y95 cohort (first interviewed in 1995 when in Year 9) of the Longitudinal Surveys of Australian Youth were analyzed to identify the effects of student employment on participation and attrition in secondary school and tertiary study and on young people's activities after secondary school. Working between 1 and 5 hours during Year 9 of secondary school had no impact on the likelihood of completion of Year 12. Participation in more than 5 hours of employment each week was associated with an increased likelihood of dropping out before the end of Year 12, especially for males. The more hours per week students worked, the more likely they were to drop out. Compared with their male counterparts, females who worked part-time during Year 9 were much more likely than to complete Year 12. Students who worked part-time during high school were 65% more likely to gain an apprenticeship or traineeship and 46% more likely to be in full-time employment rather than be unemployed after high school. Field of study has a major impact on dropping out. An inverse relationship between contact hours and dropping out was discovered. Participating in part-time work did not increase the odds of dropping out of tertiary study. (Twelve tables are included. The bibliography lists 31 references. Four data and analysis tables are appended.) (MN)

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Research Report Number 30

Student Workers in High School and Beyond:

The Effects of Part-time Employment on Participation in Education, Training and Work

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Longitudinal Surveys of Australian Youth

Research Report Number 30

STUDENT WORKERS IN HIGH SCHOOL AND BEYOND:
THE EFFECTS OF PART-TIME EMPLOYMENT ON PARTICIPATION IN EDUCATION, TRAINING AND WORK

Margaret Vickers (*University of Western Sydney*)

Stephen Lamb (*University of Melbourne*)

John Hinkley (*St Luke's Anglicare, Bendigo Victoria*)

This report forms part of the Longitudinal Surveys of Australian Youth: a research program that is jointly managed by ACER and the Commonwealth Department of Education, Science and Training (DEST).

The project has been funded by the DEST LSAY Analysis Grants Scheme. The Scheme aims to widen the use of LSAY data amongst researchers and encourage new approaches to using the data to address policy issues.

The views expressed in this report are those of the authors and not necessarily of the Department of Education, Science and Training or the Australian Council for Educational Research.

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EXECUTIVE SUMMARY

This report examines the effects of part-time student employment on participation and attrition in secondary school and in tertiary study, and on the post-school activities of young people. The first part of the report begins with an examination of part-time work during Year 9, and looks at the possible effects of working during Year 9 on Year 12 completion, and the relationships between Year 9 employment and the main activity young people pursue in the first few years beyond school. The second part focuses on the part-time employment activities of full-time tertiary students. It asks whether involvement in part-time work might increase the chance that a student will drop out of tertiary study. It also examines course contact hours, field of study, and the role of Youth Allowances in this context.

The analysis in this report is based on data collected in the *Y95* cohort of the Longitudinal Surveys of Australian Youth *(LSAY-95)*.

Main Findings

Participation in part-time work does reduce the likelihood of completing Year 12

Participation in part-time work during high school is associated with an increased likelihood of dropping out before the end of Year 12. This is less apparent if participation in part-time work (ppw) during Year 11 is used as a measure, but if participation in part-time work is measured during Year 9, the result is quite clear. There is no single correct way to measure participation in part-time work, but since a large proportion of early leavers have departed from the school system by the end of Year 10, it makes sense to use *working hours during Year 9* as a measure of this variable.

- Working one to five hours per week during Year 9 makes no difference to the likelihood of completing Year 12, however:

- Participation in employment beyond the level of five hours per week is associated with an increased likelihood of dropping out before the end of Year 12, especially for males;

- The more hours per week students work, the more likely they are to drop out;

- Males who work 5 to 15 hours per week during Year 9 are approximately 40 per cent less likely to complete Year 12 than those who do not, while males who work more than fifteen hours per week (up to and including full-time work) are approximately 60 per cent less likely to complete Year 12;

- Females who work part-time during Year 9 are much more likely to complete Year 12 than their male counterparts.

Further work is needed to ascertain the extent to which working part-time *causes* students to leave school, and the extent to which those who are working part-time have *already* decided to leave and are seeking to establish a track record in the labour market.

For students whose future is in the workforce rather than in tertiary study, participation in part-time work has some positive benefits

- There is a 65 per cent increase in the odds that a young person will gain an apprenticeship or traineeship, rather than be unemployed, if that young person worked in a part-time job during high school; and

- There is a 46 per cent increase in the odds that a young person will be in full-time employment, rather than unemployed, if that young person worked in a part-time job during high school.

A number of factors appear to affect the odds of dropping out of tertiary study

It is not possible to report on completion rates for university and TAFE courses, since the most recent available LSAY data at this stage only covers the second year of tertiary study. The following analyses examine the factors associated with dropping out before the end of the second post-school year of tertiary study:

- Field of study has a major influence on dropping out. University students in Agriculture, Computing, Education, Engineering, and the Medical Sciences are less likely to drop out than students in the Behavioural Sciences, the Fine and Performing Arts, Humanities, and Hospitality and Tourism. For all tertiary students (University plus TAFE) the five fields associated with the lowest dropout rates are Architecture, Agriculture, Education, Law, and Medical Sciences.

- There is an inverse relationship between course contact hours and dropping out. On average, the more hours per week that a student spends in classes, laboratories, and practical training, the less likely the student is to drop out.

Participation in part-time work does increase the odds of dropping out of tertiary study

- Working 20 hours per week or more increases the odds of dropping out of tertiary study, compared with those who do not work at all;

- After controlling for field of study and course contact hours, it appears that working 20 hours per week or more doubles the odds of dropping out of tertiary study, compared with not working;

- For those in University study, working 20 hours per week or more increases the odds of dropping out by 160 to 200 per cent, compared with those who do not work; and

- Students receiving Youth Allowance are more likely to drop out of Tertiary Study than those who do not receive Youth Allowance. This is despite the fact that the majority of students on Youth Allowance do not work part-time.

Conclusions

This report maps some of the consequences of student involvement in part-time work, both in high school and beyond. Students who work long hours in Year 9 are evidently less likely to complete high school than those who work less than five hours per week, or who do not work at all. On the other hand, those who work part-time appear to gain some benefits that enhance their chances of doing well in the labour market. Further study of student workers who leave school early for an apprenticeship or a full-time job is needed. Are these young people making a deliberate choice to include part-time work in their career preparation strategy? If so, what do they learn through their part-time jobs, and in what ways does this knowledge or experience help them? Is part-time work more useful than a Year 12 certificate and the knowledge that is gained through Year 12 study?

The second part of the report focuses on students in full-time tertiary study who work part-time. A majority of tertiary students now have part-time jobs during term time. Working less than 20 hours per week does not seem to have a substantial effect on the odds that they will drop out. However, tertiary students who work more than 20 hours per week are clearly at risk. Given that the data available only cover the first two years of tertiary study, this analysis is just the first step in a longer project. In addition, the currently available data do not cover students who dropped out between February and October of their first year of tertiary study. Given the rapid rise in the level of student participation in part-time work, it is important to monitor its effects both on year-to-year attrition, as well as overall completion rates.

Student Workers in High School and Beyond: the Effects of Part-Time Employment on Participation in Education, Training and Work

1. INTRODUCTION

Work is playing a larger role in the lives of Australian students. According to estimates collected by the Australian Bureau of Statistics, in the decade from 1990 the percentage of school students 15 years of age or older who were working part or full-time increased by about eight points — from 26 to 34 per cent (ABS, 1990; ABS 2000). The proportion of full-time university students participating in work increased by 10 percentage points between 1990 and 1999 — from 46 to 56 per cent (ABS, 1991; ABS 1999). Many undergraduates now rely heavily on work to support their study. Whether due to an increase in the availability of work for teenagers, particularly part-time work, or to growth in the diversity of students remaining to the end of school and those entering university, the changes represent a profound shift in the numbers of young people combining study and work. Given these sorts of changes, it is important to continue to monitor students who work for the purpose of supporting their education and to examine what effects it has on their progress.

This study pursues a comprehensive set of questions related to participation in part-time work. For example: other things being equal, are school students who work more likely to become apprentices, to study at TAFE, or to enter a university, compared with those who do not work whilst at school? Does part-time work reduce the risk of unemployment after school? Among students in tertiary study, who is more likely to work? How many hours do they tend to work? Does this vary by the course of study? Does participation in part-time work at the tertiary level have any effects on the likelihood of dropping out?

These questions about participation in part-time work carry theoretical significance, in terms of the meaning and value of part-time teenage work. Through theoretical argument and empirical demonstration, researchers have constructed very different interpretations regarding the benefits or dangers of student work. One view is that engaging in work while at school is a positive strategy for young people who do not plan on entering higher education. An alternative view, credibly supported by several American studies, is that part-time work distracts students from academic goals, leading them to drop out of high school and shun further study. At the tertiary level, one view suggests that employment has little effect on progress, while others suggest that it can adversely affect academic performance.

Our goal in this report is to assess the empirical support for these alternative views, by examining the attrition rates and main post-school activities of working and non-working students in the Y95 cohort of the Longitudinal Surveys of Australian Youth (LSAY-95). Among school students this report examines the effects of working in high school on (a) dropping out rather than completing high school, and (b) young people's participation in education, training or employment after leaving school. Among students in tertiary study, the report looks at who works while studying full-time and the effects it has on the chances of dropping out of study.

Previous Work

Several studies of the effects of part-time work on educational outcomes have been conducted using longitudinal US survey data (Marsh and Kleitman (in press); Marsh, 1991; Warren Lepore & Mare, 2000; Larson & Verma, 1999; Greenberger & Steinberg, 1986; Hotchkiss, 1986; Stern, 1997; Cheng, 1995; Singh, 1998). The results of these studies are inconsistent: some found that students' performance and engagement with education is reduced by participation in part-time work, whilst others found that small amounts of part-time work have minimal negative effects on educational achievement. Singh (1998), for example, reported that the more hours of part-time work, the greater the negative effects on student achievement. However, Stern (1997) reported that there is a detrimental effect on achievement only if secondary students work for over 15 hours a week. He found that such students had lower grades, did less homework, were more likely to drop out, and were less likely to enter post-secondary education, while students who worked for less than 15 hours per week displayed few negative consequences. An earlier study by Cheng (1995) gained similar findings, suggesting that students who worked for less than 20 hours per week had much lower dropout rates than those who worked for more than 20 hours.

It is indeed possible that small amounts of employment may have no effects while longer durations of part-time work might harm educational outcomes. It is also possible that both short- and long-duration employment have little effect. The results achieved by studies in this area seem to be highly sensitive to the researcher's choices, both in terms of the methods of analysis used, and in terms of how student involvement in part-time work is measured.

Research on work and study among full-time tertiary students in the US has also yielded inconsistent outcomes. Based on a study of undergraduates who work while enrolled in postsecondary education, the National Centre for Educational Statistics (NCES) in the United States reported that among those who initially enrolled full time, the more hours they worked, the more likely they were to reduce their participation to less than full-time enrollment or to stop attending altogether (NCES, 1994). At the same time, in a later study of undergraduates who work, the NCES (1996) reported that effects on outcomes were linked to a threshold number of hours worked per week. Full-time students working for more than 15 hours were much more likely than students working less than 15 hours to report that work limited their class choices, their class schedules, the number of classes they could take, or access to the library. Those working for more than 15 hours had significantly higher chances of dropping out of study than those who worked for less than 15 hours per week.

In Australia, most studies of the relationship between part-time work during high school and school completion have not used longitudinal data or have only used state-based or local samples (e.g., Ashenden, 1990; Woolmer & Hill, 1990; SA-DETE, 2000). However, Robinson (1999) employed national longitudinal data from the 1975 cohort of *Youth in Transition* study, and Marks et al (2000) used the LSAY-95 data; both these studies examined the consequences of student participation in part-time work, and both found that part-time employment during Year 11 did *not* have a significant effect on the likelihood of completing school. In other words, when those in some form of part-time work were compared with those not engaged in work in Year 11, there were no

significant differences in the likelihood of Year 12 completion. Robinson (1999) went further in that she separated part-time workers into groups based on their hours of work. She then found that Year 11 students who spent more than 10 hours per week in their jobs were slightly less likely to finish Year 12 than were non-workers.

In terms of post-school outcomes, Robinson (1999) also reported that, compared with students who did *not* have a part-time job while in Year 11, student workers were less likely to be unemployed at age 19, and less likely to suffer long spells of unemployment in the first few years after leaving school. More recent information on the effects of student work is required in Australia. The results reported by Robinson refer to the early 1990s. Rates of part-time work among students have increased substantially since then. It is important to now re-examine the patterns and consider the relationships of part-time work to student's progress and outcomes.

Several studies have examined the effects of employment on the progress of tertiary students in Australia (Lamb, 2001; McInnes, 2001). This work has tended to look at the issue of whether employment places competing demands on study time, thus reducing the likelihood of course completion for student workers. In a three-year longitudinal study of the impact of Youth Allowance on participation in education and training, Lamb (2001) reported that among university students on Youth Allowance, rates of completion and dropout did not vary much among those who were employed and those who were not employed while studying. Differences were far more evident among those studying diplomas and certificates in Technical and Further Education (TAFE). About 53 per cent of those who *dropped out* of TAFE Diplomas were working while studying, whereas of those who *completed* TAFE Diplomas, only 29 per cent were working. This suggests that those who dropped out of TAFE Diplomas were more likely to have been student workers rather than non-workers. Among university students, the gap in employment rates between those who dropped out (55 per cent) and those who completed (51 per cent) was much smaller. It is important to note that these data relate only to students receiving Youth Allowance. Further investigation is needed to ascertain what effect participation in part-time work has on all students, and such an analysis is presented in the current report.

Data

The analysis in this report is based on data collected in the *Y95* cohort of the Longitudinal Surveys of Australian Youth *(LSAY-95)*. LSAY is a program of longitudinal surveys of young people managed by the Department of Education, Science and Training (DEST) and the Australian Council for Educational Research (ACER). The program is designed to provide policy-relevant information on young people's education, training, and transition to work. *LSAY-95* base-year data were collected in 1995 and follow-up data have been collected annually since then.

Information on sample sizes is presented in Table 1. Of the 13,613 young people who participated in the initial Year 9 survey 9,738 remained in the survey in 1998.

Table 1 The sample sizes

	1995	1998	1999	2000
Unweighted	13,613	9,738	8,735	7,889

This report examines participation in part-time work among students at school in tertiary study. Descriptive information is provided on how employment differs according to enrollment status, student characteristics, and the types of institutions school students and tertiary students attend. In addition, the relationship between Youth Allowance and working is examined. Key background characteristics include gender, rural or urban place of residence, type of school attended, socioeconomic status (composite measure derived from parents' education, parents' occupation and wealth), language background, early school achievement (measured by performance on numeracy and reading comprehension tests undertaken in Year 9), and income support status.

The report also examines the effects of work on student outcomes. For school students, the outcomes are (1) completion of Year 12, and (2) main activity in the initial post-school years. For tertiary students, the outcome is dropout from study by the end of the second year (2000). Logistic regression analysis is used to examine the effects of part-time work on completion of Year 12 and on dropout from tertiary study. Multinomial logistic regression is used to examine the influence of work on the activities of school students in their initial post-school years. Information on the regression procedures is provided in the relevant chapters of results.

Organisation of the Report

Chapter 2 presents an analysis of the impact of part-time work on Year 12 completion. The chapter begins with a descriptive outline of who student workers are. It compares the backgrounds of school students who are in work and those who are not. The analysis provides details of the numbers of hours of work students engage in. The chapter concludes with an examination of the relative influence of work on Year 12 completion after controlling for a range of other influences, based on a logistic regression analysis.

Chapter 3 turns to the main activities of school students after they leave school. The main concern in this chapter is to examine any relationships between part-time work among school students and the initial activities of students when they leave school. The analysis provides descriptive information on patterns of post-school activity — employment, unemployment, university study, TAFE and other study — as well as results from a multinomial regression procedure that identifies the differential effects of a range of factors on initial outcomes.

In Chapter 4 the focus shifts to tertiary study. The rates of participation in work and study among university and TAFE students are reported. Descriptive information is provided on who works while undertaking tertiary study. This information includes data on differences by fields of study, type of qualification, income support and background characteristics. Chapter 5 provides an analysis of the impact of work on dropout from tertiary study. Data from a logistic regression are used to examine the effects of a range of variables including work on the likelihood of dropping out of study. Finally, Chapter 6 summarises the major findings and gives some consideration to the nature of the impact of work on the lives and progress of students.

2. COMPLETING YEAR 12: THE ROLE OF PART-TIME WORK AND OTHER FACTORS

The Need to Examine Part-time Work in Year 9

The goal of the first part of this study is to examine the effects of participation in part-time work during high school on the likelihood of completing Year 12, and its effects on levels of participation in education, training or full-time employment after leaving school. As other researchers who have attempted to work on this topic have discovered, participation in part-time work is a difficult variable to define. Different groups of individuals may *begin working* at different stages: some begin in Year 9, some in Year 10, some in Year 11, and some may only work during Year 12. The overall *duration* of their work may also vary: some may work for one year, some for two, some may give up their part-time jobs after a year or two, while others may continue to combine work and study in high school for a full four years. In addition, *work intensity* may vary, with some students working less than six hours per week, while others may work more than 20 hours per week.

There is no single 'correct' way to define student part-time work. However, if we want to know whether participation in part-time work causes students to drop out, then we need to identify part-time workers before they do drop out. This means that we need to know not only *whether* students leave school before completing Year 12, but also *when* they leave. Using discrete-time survival analysis, Vickers and Lamb (2001) showed that in some states a greater proportion of early leavers drop out of school at the end of Year 10 than at any other specific point during their high school careers. NSW enrols approximately one third of Australia's high school students, and in that state there is a one-in-ten likelihood that a student will leave school at the end of Year 10 and a relatively low likelihood of leaving during Year 11. As Vickers and Lamb (2001) showed in other states, more students leave during Year 11 than at the end of Year 10. Nevertheless, data from *LSAY-95* indicate that for the nation as a whole, the likelihood of leaving school at the end of Year 10 is approximately one in 13. The likelihood that an Australian high school student will leave school either during Year 11, or at the end of Year 11, or during Year 12 is consistently lower than the likelihood of leaving at the end of Year 10. Although patterns of attrition vary by state, the overall likelihood that Australian high school students will leave before Year 12 falls consistently over time, from one in 13 (at the end of Year 10) to one in 15.5 (during Year 12).

Since the end of Year 10 is a major exit point for early leavers, it is important to gather early-leaving baseline data during Year 9. Therefore, this study defines the student *part-time work* variable in terms of hours of part-time employment during Year 9, and *not* in terms of hours of part-time work during Year 11 as done by Robinson (1996, 1999). Another reason for using hours of work during Year 9 rather than during Year 11 relates to the issue of selectivity bias. In effect, there is a selectivity problem here, because the student workers of Year 11 represent a *selected group* that is likely to be different in some ways from the baseline group. A substantial proportion of the student workers in the baseline group leave school during Year 10 or at the end of Year 10. Thus, student workers in the Year 11 group are survivors: these students have stayed on beyond the point at which many others left. The characteristics that are associated with their survival beyond the end of Year 10 could well play a role in ensuring their survival to the end of

Year 12. There is another way in which student workers in Year 11 may differ from the baseline group; that is, they may be *new* workers who were not working at all in Year 9 or even in Year 10. In contrast with those who have been developing social ties with the workplace for two or three years, these new workers are far less likely to have their loyalties divided between their ties to school and their ties to the workplace.

In this study, the *Part-time work* variable is defined in terms of hours of part-time student employment during Year 9. Our outcome variable, *Completed Year 12,* is based on whether or not a student ever completed Year 12 by the end of 1999. Most students who were in Year 9 in 1995 would normally complete Year 12 at the end of 1998. To allow for unusual patterns of progression, an additional year has been added. This includes students who were still enrolled in Year 12 in 1999 if they completed that year. Having defined the major explanatory variable (hours of part-time work in school) and the first outcome variable (completion of Year 12) it is now possible to report our analyses of the possible effects of work on high school completion. Before doing this, a brief outline of the attributes of part-time workers in Year 9 will be provided.

Patterns of Part-time Work in Year 9

Over the past 20 years, the proportion of Australian young people who work part-time whilst at school has increased substantially. It is now evident that about one-third of all high school students hold a regular part-time job during the school year (ABS, 2001; McRae, 1992; Robinson, 1996; Robinson, 1999). A substantial proportion of these students begin working at a young age. As Table 2 shows, 23.7 per cent of the Year 9 students in the *LSAY-95* sample had a part-time job during 1995. Many of these students worked between one and five hours per week (1181 students, representing 9.5 per cent of the sample). A further 8.1 per cent of these students worked six to ten hours per week, 5 per cent of them worked between 11 and 20 hours per week, and just over one per cent of the sample worked over 20 hours per week during Year 9. Approximately 0.5 per cent of high school students already work full-time in Year 9.

Table 2 Hours worked per week by Year 9 students in 1995

Hours worked per week	No of students	%
0	9453	76.3
1 to 5 hrs	1181	9.5
6 to 10 hrs	1001	8.1
11 to 15 hrs	434	3.5
16 to 20 hrs	184	1.5
21 to 29 hrs	83	0.7
30 or more hrs	57	0.5
	12393	*100.0*

Source: Data from *LSAY-95*

Table 3 Hours worked per week by Year 9 students in 1995, by selected background characteristics (%)

	Hours of part-time work						
	0 hours	1-5	6-10	11-15	16-20	21-29	30+
SES (quartiles)							
Lowest	78.9	7.5	8.0	3.5	1.0	0.6	0.7
Lower middle	75.5	9.4	8.7	3.3	1.9	0.7	0.5
Upper middle	74.6	9.9	8.3	4.5	1.3	0.9	0.4
Highest	76.0	11.7	7.3	2.7	1.7	0.4	0.3
Achievement (Quartiles)							
Lowest	76.9	8.5	7.7	3.8	1.4	0.7	1.0
Lower middle	76.7	8.1	8.1	3.5	2.2	1.2	0.3
Upper middle	75.5	10.1	8.4	3.8	1.4	0.5	0.2
Highest	76.1	11.4	8.0	2.9	1.0	0.3	0.3
Sex							
Male	73.9	10.8	8.3	3.6	1.7	0.9	0.8
Female	76.3	9.5	8.1	3.5	1.5	0.7	0.5
School type							
Government	75.2	9.6	8.6	3.8	1.5	0.8	0.5
Catholic	78.1	8.7	7.4	3.1	1.7	0.6	0.4
Independent	79.2	10.6	6.3	2.6	0.8	0.2	0.5
Language background							
English-speaking	74.6	10.6	8.7	3.5	1.5	0.6	0.5
Other than English	82.8	5.5	5.5	3.5	1.3	0.9	0.4
Region							
Urban	77.9	9.2	7.4	3.3	1.4	0.6	0.3
Regional	74.4	10.7	8.4	3.5	1.7	0.7	0.6
Rural or remote	74.1	9.3	9.5	4.0	1.5	0.9	0.7
N=	9453	1181	1001	434	184	83	57

Source: Weighted estimates derived from *LSAY-95*

Excluding those who did not work, the median number of hours worked by these Year 9 students was 7.0 hours, and the mean number of hours worked per week was 8.6 hours. These figures are similar to those reported by Robinson (1996, 1999) for the early 1990s.

Table 3 presents information on the percentages of Year 9 students who were employed in 1995 according to selected background characteristics. It shows that students in work do vary from those not in work according to gender, language background, and type of school attended.

Gender is one factor that influences labour force participation. Year 9 males have higher rates of part-time employment than females, although the gaps are not large. About 26 per cent of males were working while in Year 9, compared to about 24 per cent of females.

Table 3 shows that students from language backgrounds other than English have lower levels of participation in part-time jobs than students from English-speaking backgrounds. While 17 per cent of Year 9 students from language backgrounds other than English had employment in Year 9, over 25 per cent of students from English-speaking backgrounds were in work.

Year 9 students in urban regions of Australia are less likely to work than are those in regional and rural areas. The gap is about 4 percentage points — 22.1 per cent of students in urban centres work, compared with 25.6 in regional and 25.9 per cent in rural or remote locations.

The patterns based on socioeconomic status (SES) do not show a clear association between social background and student part-time employment. The lowest incidence of part-time work is among students from families in the lowest quartile of SES (around 21 per cent), while the incidence among students whose families are in the other three quartiles is a little higher (24.0 -25.5 per cent). This difference is, however, quite small, and it is important to note that the correlation between the SES variable and the hours worked is zero (see Table A1, Appendix 1).

The patterns of relationships reported for part-time work and SES background are similar to those reported by Robinson for the early 1990s (Robinson, 1996).

Does Part-time Work Affect Year 12 Completion?

Before engaging in a more detailed analysis of the range of variables that may influence Year 12 completion, it is worth looking at a simple cross-tabulation, shown in Table 4. The final row of Table 4 reveals that 24 per cent of all students in the *LSAY-95* sample did not complete Year 12, that is, we have a drop-out rate of 24 per cent for the sample overall. The first two rows indicate that among those who did not work in Year 9 at all, or who worked only 1-5 hours per week, the drop-out-rate was *less* than the overall figure of 24 per cent. If we examine the remaining rows, we find that the drop-out-rate is *greater* than the overall figure. It rises from approximately 30 per cent (for those who work 6 to 15 hours), to 38 per cent for those who work 16 to 20 hours, to 50 per cent for those who work more than 20 hours per week.

At a general level it would appear that the relationship between student employment and non-completion of Year 12 is linear: the more hours per week a student worked in Year 9, the less likely it was that he or she completed Year 12. We defined part-time work in terms of *hours worked per week,* in six bands: zero, 1-5, 6-10, 11-15, 16-20, and over 20 hours. Although Table 4 might suggest a linear relationship between this variable and completing Year 12, this representation has no predictive power, since it does not take account of several other explanatory variables that might be influencing the outcome. Therefore, we have developed models that include several explanatory variables as controls. There is a measure of socioeconomic status *(SES),* and a measure of early academic *Achievement,* both of which are represented in quartiles. *Sex* and Non-English Speaking Background *(NESB)* are included as binary variables. *School Type* and *Location* are coded as dummy variables representing for *School type* government, Catholic and Independent Schools and for *Location* urban, regional and rural or remote.

Table 4 Students completing Year 12 by hours worked per week during Year 9*

	Completed Year 12		Did not complete Year 12	
Hours worked per week	No of students	%	No of students	%
Zero	5384	*77.20*	1590	*22.80*
1 to 5 hrs	717	*78.45*	197	*21.55*
6 to 10 hrs	486	*68.45*	224	*31.55*
11 to 15 hrs	183	*70.38*	77	*29.62*
16 to 20 hrs	78	*62.40*	47	*37.60*
21 or more hrs	40	*48.19*	43	*51.81*
All students	6888	*75.98*	2178	*24.02*

* Data from LSAY 95

Note: The total sample size may be lower than that reported in Table 1 because of missing cases on different variables.

To examine the association between part-time student work and Year 12 completion, a binary logistic regression analysis has been used. Before constructing such a model, it is important to explore possible relationships among the explanatory variables to ascertain whether there might be a problem of collinearity. There are two possible situations in which collinearity would have adverse effects on the models. First, suppose there is a strong correlation between part-time work and one of the other explanatory variables. In this case, it could be difficult to interpret the results correctly. Suppose, for example, that SES and Part-time work correlated strongly (eg, $r = 0.6$ or more). In substantive terms, this might imply that students working long hours per week came mostly from low-SES families. It would then be difficult to decide which variable — low SES, or long hours of work — was the *real* predictor of completing school rather than dropping out. Fortunately, the correlations between part-time work and the other six explanatory variables are extremely small, ranging from zero for SES (indicating that participation in part-time work is distributed similarly across all levels of socioeconomic status) to -0.057 for sex (indicating that Year 9 girls are slightly less likely than boys to work long hours).

The second situation in which collinearity might pose a problem is where two or more variables are not separate variables but are actually multiple indicators of the same variable. For example, it could be argued that choosing a private school rather than a government school is an indicator of family SES, so if a measure of SES *and* a measure of school type are used, two measures of SES have actually been used instead of one. In fact, Table A1 in Appendix 1 shows a correlation of 0.269 between SES and attendance at a Non-Catholic Private school for the LSAY-95 sample. As Pedhazur (1997) explained, if two or more indicators of the same variable are entered into a regression equation, this will lead to relatively small parameter estimates for each variable. Likewise, if two variables are included where one is an intermediary of the other, the same problem arises. Thus, the measure of early school achievement used in the LSAY-95 survey tends to mediate the educational strength of high SES families, and this is

reflected in the correlation of 0.288 between Achievement and SES (see Table A1 in Appendix 1). The correlations between SES and school type, and SES and Achievement, are by far the largest correlations in the Table, yet their magnitude does lie within acceptable limits. Nevertheless, some caution should be exercised in interpreting the parameter estimates for these variables, since each of them would be larger if one of the related variables was dropped from the model. What is most important for this report, however, is that the correlations between part-time work and the six control variables are either zero or very small. Therefore, we can be confident that collinearity between the control variables and the explanatory variable is not having an adverse effect on our estimation of the influence of part-time work.

Three logistic regression models that examine the association between part-time work and Year 12 completion are presented in Table 5. The first model includes all students; the second model includes males only, and the third includes females only. For each model, the data in Table 5 indicate percentage point increases or decreases in the odds ratios. The *odds ratio* is the odds of students in a specific group completing Year 12 divided by the odds of students in the control group completing Year 12. The control group includes low SES, low achieving males from English-speaking families who attended government schools in urban areas, who were not in part-time work in 1995. The percentages in Table 5 represent the odds of completing Year 12 rather than dropping out. For example, the odds of young people completing high school increase by 421 per cent if they are from the highest achievement quartile rather than the lowest, and by 155 per cent if they are from the highest SES quartile rather than the lowest. The odds of girls completing Year 12 are 86 per cent greater then the odds of boys completing, and the odds increase by 71 per cent if a student is from a non-English-speaking background. In addition, the odds of completing high school are, on average, higher for those who attend a non-government school and/or live in an urban area rather than in a rural or remote location.

This litany of relationships has been extensively documented in the literature on early school leaving, and there are no surprises here (see, for example, Long, Carpenter, and Hayden, 1999; Lamb, 1994; Lamb, 1998). What we are interested to know in this report is whether, after taking all these familiar relationships into account, participation in part-time work has any *additional* effect on the likelihood of completing school. The results in Table 5 suggest that it does. Low levels of weekly work have little effect on Year 12 completion. For students who worked one to five hours per week, the odds of finishing school are not significantly different from the odds of finishing for those who do not work at all. Moderate levels of work have a greater effect, so the odds of young people completing high school *decrease* by 28 to 34 per cent if they work between 5 to 15 hours per week, in comparison with the odds for those who do not work at all. High intensity work has an even more substantial effect. Working more than 15 hours per week in Year 9 decreases the odds of finishing school by 50 to 54 per cent.

Table 5 Part-time work and influences on Year 12 completion, expressed as the percentage point increases or decreases in the odds of completing

	Model 1 All	Model 2 Males	Model 3 Females
SES (Quartiles)			
Lowest	c	c	c
Lower middle	35**	30**	44**
Upper middle	58**	60**	57**
Highest	155**	144**	170**
Achievement (Quartiles)			
Lowest	c	c	c
Lower middle	88**	75**	102**
Upper middle	241**	235**	246**
Highest	421**	464**	353**
Sex			
Male	c		
Female	86**		
School type			
Government	c	c	c
Catholic	85**	81**	89**
Independent	43**	44**	40*
Language background			
English-speaking	c	c	c
Other than English	71**	72**	71**
Hours of part-time work in Year 9 (1995)			
0	c	c	c
Less than 5	6	9	1
5-10	-34**	-44**	-21
11-15	-28*	-35*	-18
16-20	-50**	-63**	-23
21+	-54**	-57**	-45
Region			
Urban	c	c	c
Rural or remote	-30**	-38**	-20*
Regional	-32**	-43**	-19*
N=	8848	4227	4621

* $p<0.05$ ** $p<0.01$

Note: Derived from a binary logistic regression analysis in which the control group includes low SES, low achieving males from English-speaking families who attended government schools in urban areas, who were not in part-time work in 1995. The rates are the percentage point increases or decreases in odds ratios of completing Year 12. The analysis was based on 8848 valid cases. The regression estimates from which the percentages were derived are provided in Table A3 in Appendix 1.

c Control group category

Models 2 and 3 separate the male sub-sample from the female sub-sample. The results show changes in odds ratios that suggest that boys who work part-time leave school early but that this is less true for girls who work part-time. For both the girls and the boys, there is a steady percentage point decrease in the odds of finishing school as the hours of part-time work increase. However, for the girls, none of these estimates are statistically significant. For the boys, the estimates are statistically significant and are of a greater magnitude than those obtained for the sample as a whole. An inter-related set of factors probably underlies the differences between the pattern for boys and that for girls. First, simple cross tabulations show that boys are more likely to work during Year 9 than girls, and in addition, boys are more likely than girls to work long hours per week. Overall, 74 per cent of the male sample and 76 per cent of the female sample do not work at all during Year 9. In terms of those who work between one and 20 hours per week, the differences between males and females are small, but in each category there are marginally more boys than girls. However, substantially more boys than girls worked over 20 hours per week (i.e., 92 boys, representing 1.5 per cent of the male sample, compared with 33 girls, representing 0.5 per cent of the female sample).

Working long hours during Year 9 is associated with increases in the odds of leaving school prematurely. However, the effects of part-time work on school leaving clearly differ by gender, leading one to ask why girls appear to be immune to the negative effects that part-time work has on boys' attachments to academic goals. The answer may be that the life choices open to males who leave school early are far more favourable than those open to female early leavers. Boys still greatly outnumber girls in the apprenticeship system. Girls who wish to gain a secure place in the labour market cannot rely on this avenue. Instead, their success in the labour market appears to depend on their ability to demonstrate solid achievements in the formal education system (Collins, Kenway, & McLeod, 2000). It seems that, as a result, girls have learned to balance the demands of schoolwork and participation in part-time work. Unlike their brothers, they hold part-time jobs but retain their commitment to education, completing Year 12 despite the competing demands of work and study.

It needs to be noted here that the relationship of participation in part-time work to early school leaving is not necessarily causal. It cannot be assumed that part-time work simply erodes commitment to study, so that those who work during high school inevitably drop out. On the contrary, it is possible that some students may have decided that they will leave school for work at quite an early age. For these students, finding a part-time job and building up a track record may be an intelligent and deliberate strategy. It seems possible, for example, that many young males are working part-time <u>because</u> they want to leave school. On the other hand, many young females remain on in school <u>despite</u> the fact that they are working part-time.

The next section presents analyses based on students' main activities in the first few years beyond high school. Through these analyses it will be possible to develop a richer picture of the roles gender, part-time student work, and other variables play in the shape of life after high school.

3. PART-TIME WORK AND STUDENTS' MAIN ACTIVITIES BEYOND HIGH SCHOOL

Introduction

While several Australian studies have examined the effects of student work on Year 12 completion, few if any have examined the relationship between part-time work during high school and the pathways young people follow once they leave school. In this section we ask: do *students who work* follow different pathways than those followed by students who do not work? In particular, if they choose to go from school to further study, are student workers more likely to study at TAFE than at a university? If they enter the workforce, are they more likely to enter an apprenticeship than a regular job? Are they more successful in the workplace than students who did *not* work during high school? Are they more likely to work full time rather than part-time, and are they more likely to be employed and less likely to be unemployed than students who have no prior work experience?

These questions all need to be asked in the context of the usual control variables that might also influence the outcomes. For example, attendance at a university rather than a TAFE college might be influenced by family language background and SES, and in this context part-time work may play a very minor role. To explore the issues outlined here, a multinomial logistic regression analysis was conducted; this included the six control variables that were also used in the models presented in the last section. Again, as noted in the last section, correlations between the main explanatory variable and the control variables are extremely small, so our analysis is not compromised by problems of collinearity.

Characterising the main activities of students beyond high school is not a straightforward task. The first step was to ascertain, for each year from 1996 to 1999, what major activity each participant was engaged in. Each year, each participant was mostly involved in one of eight possible activities: they were -

1. Enrolled in high school; or
2. Studying full-time or part-time at a university; or
3. Studying full-time or part-time in TAFE or another form of vocational training; or
4. In an apprenticeship or a traineeship; or
5. Working full time and not in study; or
6. Working part-time and not in study; or
7. Unemployed; or
8. Not in the labour force.

The proportions *not in the labour force (NILF)* in any year were very small, so the latter two categories were combined (unemployed &/or NILF). The next step was to assign a single 'main activity' to each person, so as to characterise what that person had done since high school. Students who had completed Year 12 in the minimum time (these were in school in 1996, 1997, and 1998) were assigned a main activity that was *the same as their main activity in 1999.* For example, approximately 2654 of the 6454 students who

completed Year 12 in 1998 went to a university in 1999, so their main activity was 'university'. A handful of the 1999 university students had arrived there by other routes. Thus, Table 6 shows 'university' as the main activity for 2673 students, or 30.9 per cent of those included in this analysis. Overall, 313 students were still in high school in 1999, either because they had repeated a year, or were repeating Year 12, were enrolled part-time in Year 12, or because they had left at some point but then returned to complete Year 12. Other students who completed Year 12 entered TAFE, or full-time or part-time work, or an apprenticeship, or were unemployed in 1999. Those activities were in each case coded as the 'main activity' for these young people.

Characterising 'main activity' for those who had left school in 1996, 1997 or 1998 was more difficult. Some participants said they had 'completed' an apprenticeship or traineeship. The 'main activity' assigned to them was 'apprenticeship or traineeship'. In many cases, young people can complete a traineeship in one year, so if a participant had been enrolled in an apprenticeship or traineeship for even one year, this was assigned to them as their main activity. Any student who had been in a TAFE college or equivalent institution for *at least two of the four years* was assigned to 'TAFE or other VET'. Likewise, any student who had been employed full-time, employed part-time, or unemployed/NILF for at least two of the four years was assigned, respectively, to the relevant category. Table 6 shows the results of this categorisation, and provides a frequency distribution for the outcome variable for our multinomial analysis.

Table 6 Main activities of young people after leaving high school

Main Activity	No of students	%
School	313	3.6
University	2673	30.9
TAFE/ Other VET	1312	15.2
Apprenticeship or Traineeship	1530	17.7
Full-time work	1669	19.3
Part-time work	557	6.4
Unemployed or not in labour force	599	6.9
	8652	*100.0*

The primary concern is to ask whether part-time work during high school predisposes students to pursue one or other of the 'main activities' that we have defined, or whether it provides some comparative advantage for those who do pursue a particular activity. First of all, we will examine the relationship of young peoples' main activities to the control variables.

Table 7 Factors influencing main activity expressed as the percentage point increases or decreases in the odds of each activity, compared to being unemployed (%)+++

	Main Activity					
	At school in 1999	University	TAFE	Apprentice/ Trainee	Full-time work	Part-time work
SES						
High	60*	302**	118**	10	45*	44
Upper middle	33	119**	75**	59**	50**	20
Lower middle	16	52**	57**	34*	39*	2
Achievement						
Highest	194**	1454**	34	-3	72**	101**
Upper middle	257**	814**	86**	40*	76**	95**
Lower middle	118**	291**	65**	52**	62**	39
School type						
Independent	3	60**	14	-11	-3	-7
Catholic	-9	70**	7	6	8	-6
Female	-7	48**	12	-65**	-13	35*
NESB	35	74**	27	-38*	-33*	-5
Region						
Rural or remote	-46**	-30*	-17	17	-12	-21
Regional	-16	-18	-20	24	4	8
Part-time work, 1995	15	-5	10	65**	46*	29
N=	299	2734	1096	1383	1485	528

Note: Derived from a multinomial logistic regression analysis in which the control group includes low SES, low achieving males from English-speaking families who attended government schools in urban areas, who were not in part-time work in 1995 and whose main activity since leaving school to 1999 was being unemployed or not in the labour force. The rates are the percentage point increases or decreases in odds ratios of participating in each activity rather than being unemployed or not in the labour force. The analysis was based on 8024 valid cases. The number of cases unemployed or not in the labour force was 499. The regression estimates from which the percentages were derived are provided in Table A2 in Appendix 1.

+++ Significant differences are represented by asterisks: *=p<0.05 **=p<0.01

Factors Influencing Main Activity

Table 7 presents an analysis of the main activities of LSAY-95 youth after they left high school. It is based on a multinomial logistic regression model of the relationship between the outcome variable (main activity), and the explanatory variables, which include six control variables and part-time work. As with Table 5, the data in Table 7 indicate percentage point increases or decreases in odds ratios. In this analysis the control group includes low SES, low achieving males from English-speaking families who attended government schools in urban areas, who were not in part-time work in 1995 and whose

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main activity since leaving school up to 1999 was being unemployed or not in the labour force. In effect, the rates are the percentage point increases or decreases in odds ratios of participating in each activity rather than being unemployed or not in the labour force since leaving school.

In looking at the rates for SES and participation in university, the results show that there was a 302 per cent increase in the odds of young people attending university rather than being unemployed if they were from the highest quartile of SES instead of the lowest quartile. For university, TAFE and full-time work, there is a linear and positive relationship between family SES and the odds of participation in each of these activities, rather than being unemployed. In effect, the odds of participating in university, TAFE or full-time work increase with SES quartile, being greatest for those in the upper SES quartile. In looking at the rates for SES and participation in apprenticeships and traineeships, we see a different pattern. The results show a 34 per cent increase in the odds of being in this activity rather than being unemployed if the students were from the lower-middle quartile of SES instead of the lowest quartile; there is a 59 per cent increase for the upper-middle quartile, but no statistically significant relationship for the highest quartile. The rates for school type show a 60 per cent increase in the odds of young people attending university rather than being unemployed if they were from an independent school rather than a government school, and a 70 per cent increase in the odds if they were from a Catholic school rather than a government school. School type has no significant effect on the odds of participating in any other main activity.

In relation to academic achievement in Year 9, the results again show some predictable patterns, with very substantial increases in the odds of young people attending university rather than being unemployed if a student was from the highest quartile of achievement rather than the lowest quartile. For apprenticeships and traineeships, the results are again different. They show a relatively small percentage point increase in the odds of being in this activity rather than being unemployed for students from the upper-middle quartile, and a somewhat *greater* increase in the odds of entering an apprenticeship for students in the *lower*-middle quartile of achievement. For the highest quartile the relationship is negative but not statistically significant. Overall, high academic achievement does not seem to increase the odds of participating in an apprenticeship or traineeship.

Apprenticeship opportunities have always been more readily available to boys than girls. In Table 7 we see that being a girl rather than a boy results in a 65 per cent *decrease* in the odds of gaining an apprenticeship or traineeship rather than being unemployed. It is also interesting to note that being a girl results in a 48 per cent *increase* in the odds of entering a university rather then being unemployed. Similar results are evident for students from non-English-speaking backgrounds. That is, being from a non-English-speaking rather than an English-speaking background results in a 38 per cent *decrease* in the odds of gaining an apprenticeship or traineeship, and a 74 per cent *increase* in the odds of entering a university rather than being unemployed. We discuss the implications of these findings in the final section of this report.

Does Part-time Work during High School Influence Main Activity?

As shown in Table 7, family background variables, gender, and student achievement have substantial influences on the activities young people engage in when they leave high school. Having taken all these relationships into account, does participation in part-time work have any *additional effect* on the main activities of young people in the years immediately after high school? That is, does participation in part-time work influence the odds of participating in university study or TAFE, or gaining an apprenticeship or a full time job, rather than being unemployed? The results presented in Table 7 suggest that part-time work has a positive effect on the odds of gaining an apprenticeship or a full-time job. In comparison with those who do not work during high school, participating in part-time work increases the odds by 65 percentage points of gaining an apprenticeship rather than being unemployed. Similarly, for those who work during school, the odds of gaining a full time job rather than being unemployed are increased by 46 per cent.

The *Main Activity* model suggests that the part-time work variable has a small (negative) association with the odds of participating in university study, but this effect is not statistically significant. However, part-time work may (indirectly) reduce the likelihood of entering university studies, since it is associated with a reduction in the odds of completing Year 12. However, this association may not be causal. The question that remains to be resolved is whether participation in part-time work causes students to drop out of school, or whether students who have already decided to leave school choose to work part-time in order to increase their chances of getting a job or an apprenticeship. Findings from this study suggest that participation in part-time work does have strategic benefits for students who want to leave school for work. The results reported here indicate that part-time work during Year 9 enhances young peoples' chances of gaining an apprenticeship or a full-time job once they leave school. Conversely, early leavers who have no work experience appear to be at greater risk of being unemployed or only working part-time, in comparison with those who did work part-time as students.

4. FULL-TIME TERTIARY STUDY AND PART-TIME WORK

Introduction

The last two chapters focused on the effects of working while in high school. This chapter and the next break new ground and examine the effects of working while enrolled in tertiary study. For students in TAFE programs and especially for those enrolled in vocational certificate courses, combining study with part-time work is not new: it is an integral part of many trade, craft, and para-professional programs. In the university sector, however, adding a substantial workplace commitment to full-time study means a departure from longstanding traditions of campus life. Universities are being forced to re-consider how they deliver their educational programs and services as they realize that many full-time students are also becoming full-time workers (see: www.dest.gov.au/highered/he/2002-2004/full). According to ABS sources, the proportion of full-time university students involved in part-time work increased by 10 percentage points between 1990 and 1999. A recent study by McInnes (2001) estimated that on average, the number of hours that university students spend in paid employment has increased by 38 per cent over the past 10 years. These figures signify a huge change in the nature of the university experience for everyone, not only for students who live harried lives as they shuttle from their lectures to their workplaces and back again, but also for the academic staff who teach them.

McInnes (2001) noted a growing disengagement with university life, and Batterham (2000) documented the decline in the overall proportions of university graduates enrolled in science and engineering courses over the past five years. It is important to ascertain to what extent students' engagement in part-time work may be contributing to these trends. As was the case with the issue of working during high school, it is again possible to argue from very different theoretical positions about the likely effects of part-time work on university study. One argument is that some students who have entered time-consuming courses might attempt to sustain their part-time jobs: they would, however, soon find themselves overcommitted, and withdraw from study altogether in favour of full participation in the labour market. If this were so, we would expect to find (a) that long hours of part-time student work would contribute to dropping out from university study, and (b) that dropout rates would be higher among student-workers in time-consuming courses than among student-workers studying courses with low time demands. An alternative argument is that commitment to a particular field of study is the over-riding factor. Many of the most time-consuming courses are also the ones that evoke the strongest personal and vocational commitments. According to this argument, students who are admitted to medicine or engineering spend many hours in classes and in direct contact with professionals in their chosen fields. Even as students, they are being drawn into a community of like-minded peers who are dedicated to the same goals. It is consistent with this argument to suggest that students who have committed themselves to a time-consuming field (such as medicine) willingly accept the course contact hours involved, and do not drop out unless academic failure or other catastrophic circumstances force them to.

The next chapter provides an analysis of the impact of part-time work on rates of dropping out from tertiary study, and allows an assessment of the relative strengths of the alternative theories outlined above. As a preliminary, this chapter examines the

background characteristics of tertiary students who work. It provides information on their rates of participation in part-time work, the number of hours that they work, their fields of study, the types of qualification they seek, and their background characteristics.

Patterns of Participation in Work and Tertiary Study

Table 8 presents a statistical overview of the background characteristics of students in tertiary study (TAFE or University), while Table 9 presents the same kinds of data for those in university study only.

The data in Tables 8 and 9 show very similar patterns. There is considerable variation in the proportions of students who engage in part-time work *by field of study*. These patterns are quite similar for students in university and students in TAFE. Specifically, among students in all forms of tertiary study, a majority of the students in Agriculture, Architecture, Computing and Engineering, and almost 50 per cent of those in Medical Sciences do not work at all. Likewise, university students in these same five fields also show lower levels of engagement in part-time work than students in the other fields of study. Among students who do work, more of them work six to ten hours per week than work either less than six hours or more than ten. The one exception to this generalisation is that one-quarter of students in the VET field work full-time while studying full-time, and only 37 per cent of students in VET do not work at all.

There is a relationship between the intensity of a course (measured by the number of hours of course contact per week) and the number of hours per week that students work. This relationship is non-linear. Only 29 per cent of students in the least-intense courses (12 contact hours) do *not* work. The proportion of students *not* working increases linearly as course contact hours rise from 12 to 20. Thus, 36 per cent, 46 per cent and 54 per cent of students in courses that involve 14, 16 and 20 course contact hours, respectively, do not work at all. Less than a third of students in 12-hour courses do not work, while *over half* of those in 20-hour courses do not work. In addition, among those who do work, the number of hours they work *decreases* as their course contact hours *increase*. However, this linear relationship does not apply to those in the courses with the *highest* course contact hours per week. Examination of the data shows that these courses, which require between 23 and 25 course contact hours, are principally teacher education and nursing. Students in these courses attempt to sustain a very full study load and long working hours. In the next chapter, analyses are reported that examine the effects of this 'double commitment', in terms of dropout rates from tertiary study.

The three background characteristics that seem to have the most bearing on who works and who does not are gender, language background and income support. Among tertiary students, 44 per cent of males do not work, compared with only 36 per cent of females. More young women than young men in the LSAY-95 sample worked while they studied at tertiary level. Four or five years ago, when they were in Year 9, the proportions of males who worked was slightly higher than the proportions of females who worked, but over time this relationship is reversed. Another difference between male and female work patterns is that in high school, males were more likely than females to work long hours. This pattern continues on to the tertiary level. Thus, while female students more often work than males, it remains true that a higher proportion of males than females work on a full-time basis while they are studying.

Table 8 Full-time tertiary study and part-time work in 1999, by selected background characteristics (%)

	Hours of part-time work in 1999							
	0	1-5	6-10	11-15	16-20	21-29	30+	Total
Qualification								
University degree	39	6	18	16	12	6	4	100
TAFE Diploma	41	5	17	16	11	5	4	100
TAFE Certificate	43	5	14	10	8	6	14	100
Field of study								
Agricultural Science	67	8	8	8	4	2	2	100
Architecture	53	3	13	9	9	10	4	100
Humanities	35	6	17	18	14	7	4	100
Behavioural Sciences	36	4	20	19	15	5	2	100
Business Studies	37	4	20	14	12	8	6	100
Computing	50	9	12	13	10	3	2	100
Education	31	8	23	15	13	6	4	100
Engineering	54	7	14	11	5	2	7	100
Law	41	2	14	18	15	8	2	100
Medical sciences	48	10	15	10	10	2	5	100
Fine & performing arts	33	8	21	19	6	10	3	100
Health sciences	38	4	19	18	11	5	4	100
Science	41	9	20	16	9	2	3	100
Hospitality & tourism	29	5	21	19	14	9	5	100
VET	37	2	11	12	10	4	25	100
Other	52	2	14	7	11	0	14	100
Course contact hours								
12	29	5	21	19	14	9	5	100
14	36	4	19	16	13	7	5	100
16	46	7	14	14	10	6	2	100
20	54	7	14	11	5	2	7	100
21	48	10	15	10	10	2	5	100
23	38	4	19	18	11	5	4	100
25	40	9	20	15	10	3	3	100
SES (Quartiles)								
Low	50	5	17	11	7	5	5	100
Lower middle	39	5	17	15	13	5	6	100
Upper middle	39	5	17	17	12	6	5	100
High	34	7	19	15	12	6	6	100
Income support								
Not on Youth Allowance	30	6	19	18	13	7	8	100
On Youth Allowance	60	5	15	9	6	3	1	100
Sex								
Males	44	6	15	13	9	5	7	100
Females	36	6	19	16	12	6	4	100
Language background								
English-speaking	35	6	18	16	12	6	7	100
Non-English speaking	52	5	15	12	9	4	3	100
Achievement (Quartiles)								
Low	47	7	16	9	9	3	9	100
Lower Middle	41	3	18	14	11	7	5	100
Upper middle	38	6	17	15	11	7	6	100
High	37	7	18	17	12	5	4	100

Table 9 Full-time university study and part-time work in 1999, by selected background characteristics (%)

	Hours of part-time work in 1999							
	0	1-5	6-10	11-15	16-20	21-29	30+	Total
Field of study								
Agricultural Science	56	8	16	12		4	4	100
Architecture	45	4	14	10	14	8	6	100
Humanities	34	5	17	17	15	8	5	100
Behavioural Sciences	35	3	20	20	15	5	2	100
Business Studies	34	4	21	14	14	9	5	100
Computing	50	8	13	15	8	4	2	100
Education	31	9	22	15	13	6	4	100
Engineering	57	6	16	11	4	2	4	100
Law	39	2	17	19	16	5	1	100
Medical sciences	50	11	15	9	11	0	4	100
Fine & performing arts	32	13	18	16	8	8	5	100
Health sciences	38	4	18	19	12	5	3	100
Science	41	9	19	16	9	2	3	100
Hospitality & tourism	30	4	19	19	14	10	4	100
Other	27	0	18	9	18	0	27	100
Course contact hours								
12	30	4	19	19	14	10	4	100
14	34	4	19	16	14	8	5	100
16	45	7	14	16	11	5	2	100
20	57	6	16	11	4	2	4	100
21	50	11	15	9	11	0	4	100
23	38	4	18	19	12	5	3	100
25	38	9	20	15	10	4	3	100
SES (Quartiles)								
Low	48	6	16	13	8	6	4	100
Lower middle	40	4	18	16	14	4	3	100
Upper middle	38	5	18	18	13	5	3	100
High	35	7	19	16	12	6	5	100
Income support								
Not on Youth Allowance	31	6	20	18	14	7	5	100
On Youth Allowance	57	6	14	11	7	3	1	100
Sex								
Males	45	6	16	13	10	5	4	100
Females	34	6	20	17	13	6	4	100
Language background								
English-speaking	34	6	19	17	13	6	5	100
Non-English speaking	50	6	15	13	9	4	2	100
Achievement (Quartiles)								
Low	50	4	14	7	14	5	7	100
Lower Middle	39	4	19	16	11	8	3	100
Upper middle	37	6	19	15	12	6	4	100
High	38	7	18	17	12	5	4	100

Data on workplace participation during the high school years showed that students from non-English-speaking backgrounds were much less likely to work while studying. This continues on to the tertiary level as well: approximately half of the students from non-English-speaking backgrounds do not work, whereas for students from English-speaking backgrounds the proportion is approximately one-third. It would seem simplistic and even tautological to assert that non-English-speaking families have a cultural bias against combining work and study. Further investigation and analysis is needed: if most students from non-English-speaking backgrounds do not work, what forms of income support do they rely on? What reasons do they give for not working? Do they find that they face barriers when they attempt to obtain jobs — barriers that Anglo-Australians do not have to worry about? Or are they and their parents committed to focusing all their energies on study, and prepared to make whatever sacrifices this might demand? While these questions are not answered in this report, it is important to recognise that the issues involved may be quite complex, and deserve further study.

Finally, the proportion of tertiary students who both work and receive income support payments is relatively small. Only 40 per cent of students receiving Youth Allowance (YA) engage in part-time work, while 70 per cent of students *not* on Youth Allowance work part-time. In 1999, students receiving YA were permitted under the conditions of the allowance to work up to 20 hours per week without it affecting their entitlement, however, it seems that many did not exercise this option. Since YA is only available to students who pass a stringent family income test, YA recipients are among the poorest students in Australia. This helps explain why 50 per cent of students in the lowest SES quartile do not engage in any part-time work at all. On average, approximately 60 per cent of all tertiary students work part-time. Other things being equal, students from the lowest SES quartile might be expected to have a greater need than most students to work part-time; however, Youth Allowance substantially lessens this need. Over 50 per cent of students from low SES backgrounds in tertiary study received YA compared to only 13 per cent for those from high SES backgrounds. Taking an overview of the data on SES background and hours of part-time work, it appears that students from all SES quartiles participate in part-time work at much the same level. The only variation from this is the one already noted here; that fewer students from the lowest SES quartile work, and that compared with other students, they are rather less likely to work 11 to 20 hours per week.

The only factor not discussed up to this point is academic achievement (based on Year 9 test scores). The proportion of low-achievers who do not work is greater than the proportion of high-achievers who do not work — 47 per cent as against 37 per cent for tertiary study. The relationship between achievement and work is possibly related to SES and YA.

In summary, tertiary students who work while studying are more often enrolled in the fields of hospitality and tourism, education, the fine and performing arts, the humanities, business studies, and behavioural sciences, and less often enrolled in Agriculture, Architecture, Computing, Engineering, or the Medical Sciences. Students in courses with low course-contact hours appear to spend more time in employment then do students in courses with moderately high course contact hours. However, many of the students in courses with the highest level of course contact also work part-time. A larger proportion of females work part-time than do males, and students from non-English-speaking backgrounds are under-represented among the part-time workers. Receiving

YA seems to reduce the likelihood that a student will work part-time. This may help to explain why students from the *lowest* SES quartile participate in work *less often* than those from higher quartiles, and why those from the lowest quartile of Year 9 achievement (who are more often from low SES backgrounds) less often work than high achievers.

5. DROPPING OUT OF TERTIARY STUDY: THE ROLE OF PART-TIME WORK AND OTHER FACTORS

This chapter addresses the question, "Does participation in part-time work increase the likelihood that students will drop out during their first two years of tertiary study"? At this stage it is not possible to use LSAY data to analyse *rates of completion* of university and TAFE degrees, since the waves of LSAY-95 data needed for such an investigation are not yet available. The currently available data does indicate (a) which students were enrolled in various tertiary courses in late 1999, and (b) whether those students were still enrolled in those particular courses (or in another course) in late 2000. Unfortunately, in 1999, the LSAY respondents were not asked whether they had 'ever enrolled' in a tertiary course. Therefore, it is not possible to determine who enrolled at the beginning of 1999 but dropped out before October of that year. It is almost certain, therefore, that the results reported here will understate the overall level of dropping out from tertiary study for students in the 1999 cohort. It is possible that the factors determining who drops out between October 1999 and October 2000 are the same as the factors that influenced dropping out during the February to October 1999 period, but the issue will need to be revisited when revised data become available.

Work and Dropping-out of Study

Table 10 provides a preliminary indication of raw student dropout rates. It shows the percentages of students who drop out of university or TAFE, by level of part-time work, field of study, and course contact hours. These data suggest that university students who work more than 20 hours per week may be more likely to drop out than those who work fewer hours (16 to 17 per cent of those who work long hours drop out, compared to 7 or 8 per cent of those who work fewer hours). For TAFE students, this relationship does not appear to hold.

From Table 10 it would also appear that field of study has a strong relationship with dropping out. In the Medical Sciences and Agricultural Science, nobody dropped out. The highest dropout rates are associated with the Behavioural Sciences and the Fine and Performing Arts (15 to 16 per cent), while dropout rates are moderately high in the Humanities, Architecture, and Hospitality and Tourism (10 to 11 per cent). Again, the patterns of dropping out by field of study are different in TAFE, with the exception of the Behavioural Sciences and the Humanities, where dropout rates are relatively high in both sectors. There appears to be a non-linear relationship between course contact hours and dropping out of university study. As course contact hours rise from the minimum of 12 hours to 21 hours, the percentage of students who drop out falls from 11 per cent to zero per cent: the dropout rate then rises again as course contact hours increase from 21 to 25. No TAFE data are available on course contact hours.

Table 10 Dropout rates from full-time tertiary study, by selected background characteristics (%)

	Type of tertiary study			
	University	TAFE diploma	TAFE certificate	ALL
Part-time work				
0	7	11	11	8
1-5	8	16	7	9
6-10	7	12	10	8
11-15	7	11	20	9
16-20	9	22	18	12
21-29	16	13	6	14
30+	17	12	4	11
Field of study				
Agricultural Science	0	10	18	8
Architecture	10	0	20	6
Humanities	11	12	2	10
Behavioural sciences	16	16	18	16
Business Studies	7	14	15	9
Computing	6	17	13	9
Education	6	14		6
Engineering	6	26	17	10
Law	5	27	25	8
Medical sciences	0	50	20	5
Fine & performing arts	15	7	9	12
Health sciences	8	10	16	9
Science	6	31	40	9
Hospitality & tourism	11	5	12	9
VET	0	2	6	5
Other	15	13	11	13
Course contact hours				
12	11	na	na	na
14	10	na	na	na
16	7	na	na	na
20	6	na	na	na
21	0	na	na	na
23	8	na	na	na
25	6	na	na	na

Modelling of Dropout

For a systematic examination of the possible associations between part-time student work and dropping out from tertiary study, a series of binary logistic regression models have been developed. These are presented in Table 11. For the first two models, *dropping out of tertiary study* (university or TAFE study) is the outcome variable. These models include all students in full-time tertiary study in 1999. The third and fourth models define *dropping out of university* as the outcome variable. Models #1 and #3 include a measure of field of study, and models #2 and #4 include a measure of weekly contact hours. Separate models have been developed for these two factors in order to avoid

distortions due to collinearity. These are likely to arise since there are correlations between field of study and weekly contact hours. For example in the medical and engineering fields, contact hours are high, while in the humanities they are generally low. Once again we have defined part-time student work in terms of *hours worked per week,* in six bands: zero, 1-5, 6-10, 11-15, 16-20, and over 20 hours. Four of the six control variables that were used in the analyses in Sections 1 and 2 are also included here. These are socioeconomic status (SES) and early academic achievement (in quartiles), sex, and Language Background Other than English, which is a binary variable. A new binary variable recording whether students do or do not receive Youth Allowance has also been included, since receipt of Youth Allowance reduces the financial necessity for a student to work in a part-time job.

For each of the models in Table 11, the data indicate percentage point increases or decreases in the odds ratios of dropping out of study between late 1999 and late 2000. The control group includes low SES, low achieving males from English-speaking families, who were not in part-time work in 1999 and who were undertaking an Agricultural Science course in 1999.

From Table 11 it can be observed that the odds of dropping out of university decrease by 31 to 32 per cent if a student is from the highest SES quartile rather than the lowest, and that the odds of dropping out of all forms of tertiary study decrease by 26 to 28 per cent for students from this same SES group. Being from the top SES quartile evidently provides some immunity against the pressures that drive other students out. What is of note is that high SES has a statistically significant effect on the odds of dropping out, but early academic achievement makes no measurable difference. The parameter loadings for academic achievement are small and they are not statistically significant. Gender also seems to have little effect on dropping out, in the context of these models. Being from a non-English-speaking background, however, reduces the odds of dropping out of tertiary study by 32 to 36 per cent, and reduces the odds of dropping out of university by 58 to 62 per cent, in comparison to being from an English-speaking background. Students who qualify for Youth Allowance (YA) should be, based on means testing at least, among the poorest students engaged in tertiary study. It is probably for this reason that receiving YA seems to increase the odds of dropping out by between 37 and 40 percentage points, in comparison with students who were not on YA.

For students enrolled in university study, the chosen field of study and the number of course contact hours per week have substantial effects on the odds of dropping out. Being in the Humanities rather than in Agriculture increases the odds of dropping out by 90 per cent; being in the Behavioural Sciences increases the odds by 150 per cent, and being in the Fine and Performing Arts increases the odds of dropping out by 166 per cent, in comparison with being in Agriculture.

Course contact hours also influence the chances of dropping out of university study (though not tertiary study more broadly). A unit increase in course contact hours is associated with a five point decrease in the odds of dropping out. The finding suggests that students undertaking courses with a more intensive contact-hour load (such as engineering, medical sciences, education and health sciences) are less likely to drop out than students enrolled in courses with smaller numbers of course contact hours (such as arts and humanities, business studies and social sciences). Table 12 presents information on fields of study by course contact hours.

Table 11 Factors influencing dropping out of study, expressed as the percentage point increases or decreases in the odds of dropping out (%)

	Tertiary		University only	
	Model #1: Field of study	Model #2: Contact hours	Model #3: Field of study	Model #4: Contact hours
SES (quartiles)				
Lowest	c	c	c	c
Lower middle	-18	-20	-13	-14
Upper middle	-13	-17	-27	-25
Highest	-26*	-28*	-32*	-31*
Achievement (Quartiles)				
Lowest	c	c	c	c
Lower middle	11	17	-6	-9
Upper middle	17	22	-9	-10
Highest	-4	-1	-15	-17
Sex				
Male	c	c	c	c
Female	-20	-16	-22	-9
Language background				
English-speaking	c	c	c	c
Other than English	-32**	-36**	-58**	-62**
Youth Allowance				
Not on YA	c	c	c	c
On YA	37**	40**	32*	39**
Type of qualification				
TAFE certificate	c	c		
University degree	-48**	-46**		
TAFE diploma	-17	-14		
Field of study				
Agricultural Science	c		c	
Architecture	-43		3	
Humanities	13		90*	
Behavioural Sciences	38		150*	
Business Studies	-19		5	
Computing	-14		20	
Education	-46		-24	
Engineering	-12		-7	
Law	-5		7	
Medical sciences	-69		-72	
Fine & performing arts	16		166*	
Health sciences	-16		19	
Science	-17		6	
Hospitality & tourism	-32		55	
Vocational education and training	-68**			
Other	9		119*	
Hours of part-time work in 1999				
0	c	c	c	c
1-5	6	8	17	21
6-10	-8	-11	-13	-14
11-15	26	19	10	16
16-20	40*	37	17	19
20-29	114**	109**	159**	161**
30+	74**	87**	200**	204**
Course contact hours+++		-2		-5**

* p<0.05 ** p<0.01

Note: Derived from a binary logistic regression analysis in which the control group includes low SES, low achieving males from English-speaking families, who were not in part-time work in 1999 and undertaking an Agricultural Science course in 1999. The rates are the percentage point increases or decreases in odds ratios of dropping out of study in 1999. The analysis was based on 4798 valid cases. The regression estimates from which the percentages were derived are provided in Table A4 in Appendix 1.

+++ The variable 'Course contact hours' is a continuous variable ranging from 12 to 25 hours. The percentage increase in odds ratio is the increase per unit increase in hours.

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Table 12 Field of study, by average contact hours

Field of study	Average contact hours
Agricultural Science	25
Architecture	16
Arts and humanities	14
Behavioural science	14
Economics and business studies	14
Computing and technology	16
Education	25
Engineering	20
Law	16
Medical	21
Fine & performing arts	16
Health sciences	23
Science	25
VET	12

It is especially important to know whether, after taking all these relationships into account, participation in part-time work has any *additional* effect on the likelihood of dropping out of tertiary study. The results in Table 11 suggest that students who work long hours are indeed at risk. Low levels of weekly work have little effect on University students or on TAFE students. However, for university students who worked 20 to 29 hours per week, the odds of dropping out are approximately 160 per cent greater than for students who did not work at all. For those who worked over 30 hours per week, this figure was between 200 and 204 per cent. The patterns for tertiary study (TAFE plus University) are similar, but the magnitude of the effect is smaller, suggesting that on average, TAFE students who work long hours are somewhat less likely to drop out than are University students who work long hours.

Overall, students who are working long hours while studying are much more likely to drop out of study than those who are not working. However, small to moderate amounts of work do not seem to have any effect. Those working for between 1 and 20 hours per week are just as likely to continue in study as those who do not work at all while studying.

6. CONCLUSION

This study used data from the Longitudinal Surveys of Australian Youth Y95 cohort to examine the effects of school and tertiary student employment on educational progress and outcomes. In line with some previous research, these analyses suggest that working during the middle years of high school may have negative effects on school outcomes. Jobs held during Year 9 tend to reduce the likelihood of completing Year 12, particularly for those who work longer hours. Unlike previous studies that suggested that work only has a deleterious effect after a threshold of 15 hours per week, the results of this report suggest that working six hours or more per week may have a negative effect. Beyond a six-hour threshold, the more hours a student worked in Year 9 the more likely it was that he or she would not complete Year 12.

It is possible that these statistical associations are not causal or are only partly causal. In some cases, participation in part-time work may be the *result* of a decision to leave early, rather than a *cause* of early leaving. Students who work part-time may be building up a track record to improve their future chances in the labour market. Some students may be actively looking for a full-time job and will leave school as soon as their employer converts their part-time job to a full-time one. Students for whom participation in part-time work is a *deliberate strategy* may work because they want to leave school, rather than the other way around. Because they are working, they may have more opportunities to leave school at an early age than non-working students. Further research is needed to confirm or disconfirm this supposition.

While having a job in Year 9 is associated with a reduced likelihood of completing school, it does yield substantial and lasting labour market benefits once young people leave school. For example, students who work in Year 9 are more likely to enter apprenticeships or traineeships rather than be unemployed in the transition from school. They are also more likely to find full-time employment rather than experience unemployment. The favorable post-school effects of employment in Year 9 persist after controlling for a comprehensive set of background characteristics and the results are robust across a variety of specifications. For instance, those in part-time work in 1995 had a 65 percentage point gain in the odds of entering an apprenticeship or traineeship and a 46 point gain in the odds of entering full-time employment over the odds of being unemployed, after controlling for social and academic background, ethnicity, gender, region and school type.

Several caveats are worth noting. First, this study has focused exclusively on measurable school and post-school outcomes. Second, the analysis is restricted to individuals in part-time work in Year 9 rather than those in part-time work during the remaining senior years. Third, there may be other impacts of student job-holding which do not show up until the later post-school years, but the data used in our study of school students extend only one year beyond Year 12 or four years beyond Year 9. While these qualifications imply that the conclusions of this study should be interpreted cautiously, it does seem evident that there are school and post-school effects that result from Year 9 employment. Some of these effects cannot be measured by studying part-time employment during Year 11 or Year 12. There are at least two reasons for this. First, some students from the poorest families stop working in Year 11 when they start receiving Youth Allowance, and this weakens the statistical association between participation in part-time work and

early leaving. Second, many of the earliest leavers have already left the school system by the beginning of Year 11. Year 9 student workers are over-represented among those who leave school before Year 11.

Based upon the results for school students who work, a tentative but fairly strong conclusion is that moderate work commitments provide important net post-school labour market investments. On the other hand, heavy work commitments increase the risk of dropping out of school. Further study is needed to identify the mechanisms at work here. Specifically, future research should seek to uncover how and why participation in part-time work contributes to future labour market sources. Do employers prefer students who already have work experience? Does work experience give students important contacts that help them get jobs? Is it important for students to work long hours, or do moderate hours of work to have the same labour market advantages? In the longer term, do students who combine moderate hours of employment with study and who complete Year 12 do better than those who leave school early? These research questions need to be addressed, and the implications of this research needs to be translated into practical advice that is disseminated to high school teachers and career counsellors.

For full-time tertiary students who are working while in study, the impact of work on their chances of dropping out or continuing in study has been assessed. Almost half of the students in tertiary study in 1999-2000 worked between 6 and 20 hours per week. Approximately 11 per cent worked for more than 20 hours per week. The propensity to work varies by field of study and course contact hours. It also varies by SES, gender, language background and receipt of student income support. Students receiving Youth Allowance are almost half as likely to work as those not receiving government income support.

Students who work long hours at the tertiary level are at risk of discontinuing their study. Low levels of weekly work have little effect, but for full-time university students who worked 20 to 29 hours per week, the odds of dropping out are approximately 160 per cent greater than for students who did not work at all. For those who worked over 30 hours per week, this figure was between 200 and 204 per cent. Students who are working long hours as well as studying are much more likely to drop out of study than those who are not working. However, small to moderate amounts of work do not seem to have any effect. Those working for between 1 and 20 hours per week are just as likely to continue in study as those who do not work at all while studying. These patterns also apply to students in TAFE.

Further research on the benefits and costs of student employment is needed. In particular, it is important to better understand the mechanisms by which early work experience inhibits school completion but raises labour market attainment. It is also important to analyse the characteristics of the jobs held by high school students, and to examine the types and sources of demographic group differences in relation to student employment. In terms of part-time work among tertiary students, it is important to obtain more comprehensive information on the impact of student employment on both tertiary graduation and longer-term career and labour market outcomes.

REFERENCES

Ashenden, D. (1990) *The Student Workers. The extent, character, consequences and possibilities of part-time work by secondary students.* Australian Government Publishing Service, Canberra.

Australian Bureau of Statistics (1990) *Transition from education to work. Catalogue No. 6227.0.* Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (1991) *Transition from education to work. Catalogue No. 6227.0.* Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (1999) *Transition from education to work. Catalogue No. 6227.0.* Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (2000) *Transition from education to work. Catalogue No. 6227.0.* Canberra: Australian Bureau of Statistics.

Batterham, R. (2000) *The Chance to Change.* Discussion paper by the Chief Scientist. AGPS: Canberra.

Cheng, M. (1995) *Issues related to student part-time work: What did research find in the Toronto situation and other contexts*? No. 215. Toronto: Toronto Board of Education (Ontario).

Collins, C., Kenway, J., and McLeod, J. (2000) *Factors influencing the educational performance of males and females in school and their initial destinations after school.* Canberra: Commonwealth of Australia.

Greenberger, E., & Steinberg, L. (1986) *When teenagers work: The psychological and social costs of adolescent employment.* New York: Basic Books, Inc.

Hotchkiss, L. (1986) Work and schools – complements or competitors. In B.K.M. & J. Reisman (Eds.), *Becoming a Worker* (pp. 90-115). Norwood, New Jersey: Ablex Publishing Corporation.

Lamb, S. (1994) "Dropping out of school in Australia: changes in participation and outcomes", *Youth and Society*, 26, 2, 194-222.

Lamb, S. (1998) "Completing school in Australia: trends in the 1990s", *Australian Journal of Education* 42, 1, 5-31.

Lamb, S. (2001) *Youth Allowance and participation in education, training and work.* Research from the Second Wave of the Youth Allowance Longitudinal Survey. Unpublished Report. Department of Family and Community Services.

Larson, R.W. & Verma, S. (1999). How children and adolescents spend time across the world: Work, play, and developmental opportunities. *Psychological Bulletin*, 125 (6), 701-736.

Long, M., Carpenter, P. and Hayden, M. (1999) *Participation in education and training 1980-1994.* LSAY Research Report No.13. Melbourne: Australian Council for Educational Research.

Marks, G., Fleming, N., Long, M. & McMillan, J. (2000) *Patterns of Participation in Year 12 and Higher Education in Australia: Trends and Issues.* LSAY Research Report No. 17. Melbourne: ACER.

Marsh, H.W. (1991) Employment during high school : character building or a subversion of academic goals? *Sociology of Education*, 64 (July), 172-189.

Marsh, H.W. and Kleitman, S. *(In press) Consequences of Employment During High School: Character Building, Subversion of Academic Goals, or a Threshold.*

McInnes, C. (2001) *Signs of Disengagement? The changing undergraduate experience in Australian Universities.* Inaugural Professorial Lecture, Centre for the Study of Higher Education, Faculty of Education, University of Melbourne.

McRae, I. (1992) School students in part time work. In R. G. Gregory & T. Karmel (Eds.), *Youth in the Eighties. Papers from the Australian Longitudinal Research Project* (pp. 204-223). Canberra: Centre for Economic Policy Research, Australian National University, and Department of Employment, Education and Training.

National Centre for Educational Statistics (NCES) (1994) *Undergraduates who work while enrolled in postsecondary education: 1989-1990.* NCES: Washington.

National Centre for Educational Statistics (NCES) (1996) *Undergraduates who work: national postsecondary student aid study.* NCES: Washington.

Pedhazur, E. (1997) *Multiple Regression in Behavioural Research* (3rd Edition). Harcourt Brace, NY.

Robinson, L. (1996) *School Students and Part-time Work.* LSAY Research Report No. 2. Melbourne: ACER.

Robinson, L. (1999) *The Effects of Part-time Work on School Students.* LSAY Research Report No. 9. Melbourne: ACER.

Singh, K. (1998) Part-time employment in high school and its effect on academic achievement. *Journal of Educational Research*, 91(3), 131-139.

South Australian Department of Education, Training and Employment. (2000) *Survey of Student Participation in the Labour Force, South Australia, 2000.*

Stern, D. (1997) "Learning and Earning: The Value of Working for Urban Students." *ERIC Digest #128*

Vickers, M. and Lamb, S. (2002) Why state policies matter: the influence of curriculum policy on participation in post-compulsory education and training. *Australian Journal of Education*, 46 (2), 172-188.

Warren, J. R., Lepore, P.C. & Mare, R. D. (2000) Employment during high school: consequences for students; grades in academic courses. *American Educational Research Journal*, 37 (4), 943-969.

Woolmer, B. & Hill, D. (1990) Part-Time Work and Future Employment: A Pilot Study. *Youth Studies.* 9(3), 30-35.

APPENDIX 1: DATA AND ANALYSIS TABLES

Table A1 Correlations among the variables used in regression models

		HRS95	SESQ	ACHQ	FEMALE	GOVT	CATH	NCP	LBOTE	RURAL	REGION	URBAN
HRS95	Pearson	1	.000	-.029	-.057	.032	-.008	-.034	-.038	.022	.026	-.041
	Sig.	.	.998	.001	.000	.000	.383	.000	.000	.013	.003	.000
SESQ	Pearson	.000	1	.288	-.034	-.284	.099	.269	-.038	-.095	-.064	.131
	Sig.	.998	.	.000	.000	.000	.000	.000	.000	.000	.000	.000
ACHQ	Pearson	-.029	.288	1	.002	-.168	.038	.182	-.083	-.036	-.042	.066
	Sig.	.001	.000	.	.779	.000	.000	.000	.000	.000	.000	.000
FEMALE	Pearson	-.057	-.034	.002	1	-.012	.023	-.009	-.004	.009	.000	-.007
	Sig.	.000	.000	.779	.	.176	.008	.272	.623	.294	.991	.409
GOVT	Pearson	.032	-.284	-.168	-.012	1	-.674	-.590	-.042	.122	.061	-.150
	Sig.	.000	.000	.000	.176	.	.000	.000	.000	.000	.000	.000
CATH	Pearson	-.008	.099	.038	.023	-.674	1	-.199	.076	-.102	-.043	.119
	Sig.	.383	.000	.000	.008	.000	.	.000	.000	.000	.000	.000
NCP	Pearson	-.034	.269	.182	-.009	-.590	-.199	1	-.028	-.050	-.034	.069
	Sig.	.000	.000	.000	.272	.000	.000	.	.001	.000	.000	.000
LBOTE	Pearson	-.038	-.038	-.083	-.004	-.042	.076	-.028	1	-.153	-.157	.259
	Sig.	.000	.000	.000	.623	.000	.000	.001	.	.000	.000	.000
RURAL	Pearson	.022	-.095	-.036	.009	.122	-.102	-.050	-.153	1	-.282	-.550
	Sig.	.013	.000	.000	.294	.000	.000	.000	.000	.	.000	.000
REGION	Pearson	.026	-.064	-.042	.000	.061	-.043	-.034	-.157	-.282	1	-.646
	Sig.	.003	.000	.000	.991	.000	.000	.000	.000	.000	.	.000
URBAN	Pearson	-.041	.131	.066	-.007	-.150	.119	.069	.259	-.550	-.646	1
	Sig.	.000	.000	.000	.409	.000	.000	.000	.000	.000	.000	.

Table A2 Factors influencing main activity to 1999, regression parameter estimates

	Main Activity					
	School	University	TAFE	Apprentice/ Trainee	Full-time work	Part-time work
Intercept	-1.355**	-1.202**	-0.012	0.934**	0.542**	-0.617**
SES						
High	0.470*	1.392**	0.778**	0.100	0.370*	0.361
Upper middle	0.282	0.785**	0.560**	0.466**	0.406**	0.182
Lower middle	0.150	0.416**	0.450**	0.293*	0.331*	0.023
Achievement						
Highest	1.080**	2.743**	0.291	-0.030	0.542**	0.697**
Upper middle	1.272**	2.213**	0.619**	0.335*	0.564**	0.668**
Lower middle	0.779**	1.364**	0.504**	0.419**	0.485**	0.330
School type						0.000
Independent	0.027	0.467**	0.130	-0.121	-0.032	-0.076
Catholic	-0.099	0.532**	0.064	0.062	0.079	-0.065
Female	-0.071	0.391**	0.117	-1.055**	-0.141	0.301**
NESB	0.299	0.554**	0.241	-0.474*	-0.406*	-0.056
Part-time work	0.141	-0.053	0.097	0.499**	0.382*	0.256
Region						
Rural or remote	-0.612**	-0.362*	-0.186	0.159	-0.124	-0.230
Regional	-0.180	-0.196	-0.223	0.218	0.036	0.080

Note: Derived from a multinomial logistic regression analysis in which the control group includes low SES, low achieving males from English-speaking families who attended government schools in urban areas, who were not in part-time work in 1995 and whose main activity since leaving school to 1999 was being unemployed or not in the labour force. The rates are the percentage point increases or decreases in odds ratios of participating in each activity rather than being unemployed or not in the labour force. The analysis was based on 8024 valid cases. The number of cases unemployed or not in the labour force was 499.

*** Significant differences are represented by asterisks: *=p<0.05 **=p<0.01

Table A3 Likelihood ratio tests

Effect	-2 Log Likelihood of Reduced Model	Chi-Square	Degrees of freedom	Significance
Intercept	8758.63***	0	0	
SES	9028.61	269.976	18	.000
Achievement	9707.24	948.603	18	.000
School type	8838.42	79.791	12	.000
Female	9168.85	410.215	6	.000
Language background	8915.34	156.704	6	.000
Part-time work in 1995	8816.61	57.974	6	.000
School size	8813.34	54.706	12	.000

Note: The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

*** This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Table A4 Factors influencing dropping out of study, regression parameter estimates

	Tertiary		University only	
	Field of study	Contact hours	Field of study	Contact hours
SES (quartiles)				
Lowest	c	c	c	c
Lower middle	-0.200	-0.225	-0.137	-0.151
Upper middle	-0.135	-0.182	-0.308	-0.285
Highest	-0.307*	-0.330*	-0.380*	-0.373*
Achievement (Quartiles)				
Lowest	c	c	c	c
Lower middle	0.103	0.153	-0.063	-0.099
Upper middle	0.158	0.196	-0.089	-0.110
Highest	-0.042	-0.006	-0.162	-0.181
Sex				
Male	c	c	c	c
Female	-0.226	-0.178	-0.244	-0.097
Language background				
English-speaking	c	c	c	c
Other than English	-0.389**	-0.445**	-0.866**	-0.979**
Youth Allowance				
Not on YA	c	c	c	c
On YA	0.316**	0.337**	0.277*	0.331**
Type of qualification				
TAFE certificate	c	c		
University degree	-0.653**	-0.612**		
TAFE diploma	-0.181	-0.155		
Field of study				
Agricultural Science	c		c	
Architecture	-0.555		0.025	
Humanities	0.121		0.641*	
Behavioural sciences	0.320		0.917*	
Business Studies	-0.209		0.049	
Computing	-0.151		0.184	
Education	-0.622		-0.269	
Engineering	-0.127		-0.075	
Law	-0.049		0.069	
Medical sciences	-1.173		-1.283	
Fine & performing arts	0.148		0.978*	
Health sciences	-0.177		0.175	
Science	-0.191		0.055	
Hospitality & tourism	-0.379		0.437	
Vocational education and training	-1.145**			
Other	0.085		0.784*	
Hours of part-time work in 1999				
0	c	c	c	c
1-5	0.062	0.077	0.156	0.188
6-10	-0.084	-0.120	-0.140	-0.155
11-15	0.228	0.173	0.092	0.149
16-20	0.336*	0.315	0.155	0.178
20-29	0.760**	0.735**	0.952**	0.960**
30+	0.552**	0.627**	1.099**	1.112**
Course contact hours		-0.017		-0.046**

* $p<0.05$ ** $p<0.01$

Note: Derived from a binary logistic regression analysis in which the control group includes low SES, low achieving males from English-speaking families, who were not in part-time work in 1999 and undertaking an Agricultural Science course in 1999. The rates are the percentage point increases or decreases in odds ratios of dropping out of study in 1999. The analysis was based on 4798 valid cases.

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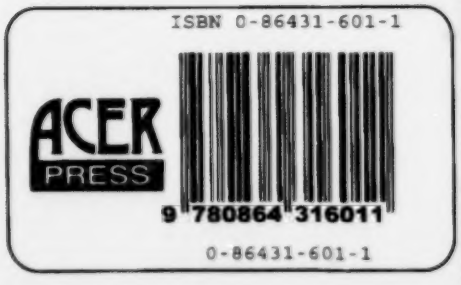

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Zip Code:	3124
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